

REMARKS

This responds to the Office Action mailed on April 9, 2007. No claims are amended, canceled or added. Thus, claims 1-20 remain pending in this application.

Election / Restrictions

Applicant thanks the Examiner for considering claims 1-20.

§102 Rejection of the Claims

Claims 1, 3, 6-7, 11-15 and 16-17 were rejected under 35 U.S.C. § 102(e) for anticipation by Holube et al. (US 6,198,830). Applicant does not admit that Holube et al. is prior art, and reserves the right to swear behind Holube et al. at a later date. However, Applicant has chosen to distinguish the claims from Holube et al. Applicant respectfully traverses for at least the following reasons.

In paragraph 5, the rejection states:

Regarding claims 1, 11, 12, and 16, Holube discloses a hearing aid for processing an input signal or an apparatus for processing a digital audio signal in Figs. 1-2, comprising: a microphone, a digital processor or detector including an inhibitor having an envelope detector for smoothing the input signal to inhibits or excludes or reduces distortions arising from apparent modulation (modulation frequency analysis), an adjust (AGC amplification element that inherently having preamplifier) to adjust amplification of the digital audio signal, and a sampler (frequency band synthesis module) to sample the amplified input signal.

The rejection refers to Figs. 1-2, which are the only figures in the reference. It is not clear to Applicant how the reference is being applied to reject the claim. Applicant respectfully

requests the Examiner's assistance by clarifying how specific portions of the reference is being applied to the claims.¹

The Holube et al. reference resolves an input signal into a number N of frequency bands; individual signal analyses are undertaken for each frequency band; and the frequency bands are merged after the amplification (col. 2 lines 37-41). The signal analysis module 8, delay element 5, level detector 6, and AGC amplification element 7 are allocated to each individual frequency band (col. 3 lines 55-57). Certain frequency bands can be selectively amplified or suppressed (col. 2 lines 37-59) before the frequency bands are merged. The signal analysis module 8 has an envelope detector 13, a modulation filter bank, and classification unit 15, where the modulation filter bank can be a two channel filter bank with filters 14 and 14' for determining the power in the respective modulation frequency ranges, and where the classification unit 15 evaluates the envelope detected by the detector and the measured power respectively at the outputs of the modulation filters, and converts the results into AGC parameters (col. 4 lines 38-47).

The rejection includes the parenthetical (modulation frequency analysis) after "apparent modulation." Thus, it appears that the rejection asserts that modulation frequency analysis is equivalent to apparent modulation, which is unclear to Applicant as to how these are considered equivalent in the rejection. Applicant respectfully submits that one of ordinary skill in the art would understand "apparent modulation" upon reading and comprehending the application, including page 5 lines 13 to page 6 line 3, page 7 line 28 to page 9 line 8 of Applicant's specification. As provided in Applicant's specification at page 5 lines 17-19, apparent modulation occurs when the frequency of the signal is slightly removed from a rational factor of the sampling frequency. Applicant cannot find any showing or suggestion in Holube et al. that

¹ The reasons for any adverse action or any objection or requirement will be stated in an Office action and such information or references will be given as may be useful in aiding the applicant, or in the case of a reexamination proceeding the patent owner, to judge the propriety of continuing the prosecution. 35 U.S.C. §132; 37 CFR 1.104 (a)(2). When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified. 37 CFR 1.104 (c)(2). When considered necessary for adequate information, the particular figure(s) of the drawing(s), and/or page(s) or paragraph(s) of the reference(s), and/or any relevant comments briefly stated should be included. MPEP §707.

distortions arising from apparent modulation are inhibited. For example, there is no showing or suggestion that each potential apparent modulation frequency is targeted and inhibited with its own analysis module 8, delay element 5, level detector 6, and AGC amplification element 7 for each frequency band for the potential apparent modulation frequencies.

With respect to independent claim 1, Applicant is unable to find, among other things, in Holube et al. a showing or suggestion of a hearing aid comprising, among other things, a digital processor to process the input signal at a gain, where the processor includes an inhibitor to inhibit distortions and an adjuster to adjust the gain of the input signal, and where the inhibitor smoothes an envelope of the input signal so as to inhibit distortions arising from apparent modulation of the input signal due to sampling of the input signal, as recited in the claim. Claim 3 depends on claim 1 and is asserted to be in condition for allowance with respect to claim 1.

With respect to independent claim 6, Applicant is unable to find, among other things, in Holube et al. a showing or suggestion of a method comprising, among other things, sampling an input signal, and smoothing an envelope of the input signal where the smoothing inhibits distortions arising from apparent modulation of the input signal produced by sampling the input signal, as recited in the claim. Claim 7 depends on claim 6 and is asserted to be in condition for allowance with claim 6.

With respect to independent claim 11, Applicant is unable to find, among other things, in Holube et al. a showing or suggestion of an apparatus for processing a digital audio signal that includes an adjuster to adjust amplification of the digital audio signal, and a detector to form a smooth envelope that is a rectified version of the digital audio signal, where the detector presents the smooth envelope to the adjuster, and the smooth envelope excludes apparent modulation of the digital audio signal, as recited in the claim. Claims 12-15 depend on claim 11 and are asserted to be in condition for allowance with claim 11.

With respect to claim 16, Applicant is unable to find, among other things, in Holube et al. a showing or suggestion of a hearing aid for processing an input signal comprising, among other things, a sampler to sample the amplified input signal, a detector to form a smooth envelope that is rectified, and an adjuster to adjust the gain of the preamplifier if the smooth envelope is greater than a threshold to reduce distortions due to an apparent modulation arising from sampling of the

amplified input signal, as recited in the claim. Claim 17 depends on claim 16, and is asserted to be in condition for allowance with claim 16.

§103 Rejection of the Claims

Claims 2, 4-5, 8-10 and 18-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Holube in view of IBM (IBM Tech Disclosure Bulletin, 1993). Applicant respectfully traverses, asserting that the proposed addition of IBM to Holube et al. does not cure the deficiencies of the rejections of the independent claims using Holube et al., as discussed above. Claims 2 and 4-5 depend on claim 1, and are asserted to be in condition for allowance with claim 1. Claims 8-10 depend on claim 6, and are asserted to be in condition for allowance with claim 6. Claims 18-20 depend on claim 16, and are asserted to be in condition for allowance with claim 16.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6960 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

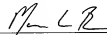
Respectfully submitted,

JON S. KINDRED ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6960

Date 7-9-07

By 
Marvin L. Beekman
Reg. No. 38,377

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 9 day of July 2007.

CANDIS BUENDING

Name


Signature